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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,010

05/02/2007

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EXAMINER

CHAWAN, SHEELA C

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

08/04/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,010	Applicant(s) IKEUCHI ET AL.	
	Examiner SHEELA C. CHAWAN	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-9 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 2-4,10 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/29/09; 12/20/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Preliminary Amendment

1. Preliminary amendment filed on 8/15/06 has been entered.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 6/29/09; 12/20/07, the information disclosure statement is being considered by the examiner.

Drawings

4. The Examiner has approved drawings filed on 8/15/06.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5 - 9 and 11-12, are rejected under 35 U.S.C. 102(e) as being anticipated by Tomohito et al " Shape Reformation of 3D Range Image Scanned on a balloon" Listed in IDS.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As to claim 1, Tomohito et al., discloses a system for determining the three dimensional shape of an object (note, a shape – reformation method of 3D range images using the conjugate gradient method through estimating the velocity of the balloon), comprising:

a first measuring device for measuring a first distance and direction from a fixed first observation point to a first group of measurement points on the object, obtaining first measurement results (introduction paragraph talks about a method wherein, when conducting alignment between a distorted range image obtained by a FLRF, and an undistorted range image obtained from a fixed point on the ground, correction is done by expanding the conventional method of estimating the relative position and attitude of sets of data, and simultaneously considering the distortion in shape represented by parameters);

a second measuring device for measuring a second distance and direction from a movable second observation point to a second group of measurement points on the object, thereby obtaining second measurement results, wherein at least one point among said second group of measurement points is a common measurement point, the

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common measurement point being the same measurement point as at least one point among the first group of measurement points, said second group of measurement points including at least one measurement point not included in the first group of measurement points (introduction paragraph talks about a method wherein, when conducting alignment between a distorted range image obtained by a FLRF, and an undistorted range image obtained from a fixed point on the ground, correction is done by expanding the conventional method of estimating the relative position and attitude of sets of data, and simultaneously considering the distortion in shape represented by parameters, also see page 6 second paragraph);

a computer for:

(i) calculating a traveling velocity vector of the second observation point from the measurement results concerning the common measurement point made by the first and second measuring devices (see page 6 paragraph 2, related research, see page 8, paragraph 3, alignment method with distortion correction, see page 9 paragraph 4 .1 experimental method, also see page 10, paragraph 4.2 experimental result and discussion, see fig 4 and 5),

(ii) correcting the second measurement results based upon said traveling velocity vector(see page 6 paragraph 2, related research, see page 8, paragraph 3, alignment method with distortion correction, see page 9 paragraph 4 .1 experimental method, also see page 10, paragraph 4.2 experimental result and discussion, see fig 4 and 5), and

(iii) calculating the three dimensional coordinates of the measurement points of the first group and the second group of measurement points (see page 6 paragraph 2,

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related research, see page 8, paragraph 3, alignment method with distortion correction, see page 9 paragraph 4 .1 experimental method, also see page 10, paragraph 4.2 experimental result and discussion, see fig 4 and 5);_and

a display that displays an image of the object based upon the three dimensional coordinates (note, the range image prior to and after the alignment is shown in fig 4 and 5, and the results of velocity estimation relative to the input velocity initial values are shown in table 2).

Regarding claim 5, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 1.

Regarding claim 6, the limitations therein are disclosed in (see page 6 - 7, paragraph).

Regarding claim 7, the limitations therein are disclosed in (see page 6 - 7, paragraph).

Regarding claim 8, the limitations therein are disclosed in (see page 6 - 7, paragraph).

Regarding claim 9, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 1.

Regarding claim 11, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 1.

Regarding claim 12, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 1.

Allowable Subject Matter

6. Claims 2- 4, 10 and 17 and are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, because the prior art of record fail to teach characterized in that the second measuring means device is provided with a scanner unit comprising a laser radar unit for ranging each point, a four-faceted polygon mirror for performing horizontal scanning, and a planar swing mirror for performing vertical scanning (as recited by claim 2 and 10).

Claims 3 – 4 and 17 depend from the objected base claim 2 and 10 and therefore they are objected for the same reasons.

Other prior art cited

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Numbers: 4915498; 6144451; 7343039; 6897946; 6879946; 6639594 B2; 5311999; 5538138; 5737438.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHEELA C. CHAWAN whose telephone number is (571)272-7446. The examiner can normally be reached on 7.30- 5.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on 571-272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)? If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sheela C Chawan/

Primary Examiner, Art Unit 2624

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